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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,912	06/23/2003	Richard L. Antrim	006401.00399	7581
23460	7590	05/17/2004	EXAMINER	
LEYDIG VOIT & MAYER, LTD TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO, IL 60601-6780			KHARE, DEVESH	
			ART UNIT	PAPER NUMBER
			1623	

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p align="center">10/601,912</p>	<p>Applicant(s)</p> <p align="center">ANTRIM ET AL.</p>	
	<p>Examiner</p> <p align="center">Devesh Khare</p>	<p>Art Unit</p> <p align="center">1623</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 11-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-10 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/>             Paper No(s)/Mail Date ____.</p> | <p>4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br/>             Paper No(s)/Mail Date. <u>4-06-2004</u>.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
|--|--|

***Election/Restrictions***

Restriction is required under 35 U.S.C. 121:

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

- I. Claims 1-10, drawn to a reaction product which is a saccharide derivative having an average degree of polymerization ranging from 1 to 4 with a mixture of malto-oligosaccharidesaccharide-derivatized oligosaccharide, classified in class 536, subclass various.
- II. Claims 11-19,21-29,32 and 33, drawn processes for preparing saccharide-derivatized oligosaccharide by derivatizing a saccharide product with a degree of polymerization of 1 to 4 with a mixture of malto-oligosaccharides with atleast a portion having a degree of polymerization greater than 5, classified in class 536, subclass various.
- III. Claims 20,30 and 31 drawn to products which are derivatized from a saccharide derivative with average degree of polymerization 1 to 4 with a mixture of malto-oligosaccharides with degree of polymerization greater than 5, classified in class 536, subclass various.

The inventions are distinct, each from the other because of the following reasons:

Groups **I to II** are related as reaction product and process of making and reaction product thereof. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for making the product as claimed can be

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practiced with another materially different process or (2) the product as claimed can be made in a materially different process of making that product (MPEP § 806.05(h)). In the instant case the claims are drawn to a process for preparing the saccharide-derivatized oligosaccharide composition of Group I, indicating that the product can be prepared by a materially different process such as with an amylase (see U.S. Patent 5,208,151). Additionally, the product of Group I differs from those of Group II in that they are not necessarily spray dried products or prepared by the procedures as set forth in Group II processes, which uses malto-oligosaccharides in the mixture having a degree of polymerization greater than 5.

Inventions **I to III** are unrelated to one another. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the products of I and III are divergent products.

Groups **II to III** are related as reaction product and process of making and reaction product thereof. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for making the product as claimed can be practiced with another materially different process or (2) the product as claimed can be made in a materially different process of making that product (MPEP § 806.05(h)). In the instant case the claims are drawn to a process for preparing the saccharide-derivatized oligosaccharides, indicating that the product can be prepared by a materially different process such as with an amylase (see U.S. Patent 5,208,151). Additionally,

U.S. Patent 6,380,379 shows degree of polymerization provides divergent products which are distinct.

Although the inventions are classified in the same class and sub-class, searching the three groups of inventions constitutes a burdensome search, as a thorough search comprises a search of foreign patents and non-patent literature as well as the appropriate U.S. patent classifications. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their divergent subject matter, restriction for examination purposes as indicated is proper. It is noted that examination of the three independent and distinct inventions would indeed impose an undue burden upon the examiner in charge of this application.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143). If applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims, which depend from or otherwise include all the limitations of the allowable product claim will be rejoined.

(MPEP § 821.04)

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

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The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

During telephone conversation with applicant's attorney Allen Hoover on 04/06/04, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-33 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 1-10 are before the examiner and an action on the merits of said claims is contained herein below.

### **Objection**

Claim 2 is objected to since claim 2 is dependent on itself.

Claim 2 is not been further treated on the merits.

Appropriate correction is required.

**35 U.S.C. 112, second paragraph rejection**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

Claims **1, 3-10** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(A) "Derivatized" is a relative term that renders the claim 1 indefinite. In the absence of the specific derivatization to the claimed compound core or distinct language to describe the structural derivatization or the chemical names of derivatized or substituted compounds claimed, the identity of said derivatized compounds would be difficult to describe and the metes and bounds of said modified compounds applicants regard as the invention cannot be sufficiently determined because they have not been particularly pointed out or distinctly articulated in the claims.

(B) The phrase "extrusion reaction product of a saccharide product" in claim 1 is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Applicant should consistently set forth the identity of the extrusion product.

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(C) The phrase "one other saccharide" in claim 10 is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Applicant should consistently set forth the identity of the one other saccharide.

Claims which depend from an indefinite claim which fail to obviate the indefiniteness of the claim from which they depend are also seen to be indefinite and are also rejected for the reasons set forth supra.

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3-10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No.

6,720,418('418) in view of Degelmann et al. (U.S. Patent 6,103,894)('894).

The instant invention is directed to a saccharide-derivatized oligosaccharide composition, comprising extrusion reaction product of a saccharide (DP 1-4) and



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mixture of malto-oligosaccharide and mixture of malto-oligosaccharide derivative with the extrusion produced saccharide. Additional limitations include the saccharide product consisting of dextrose in monohydrate form or a mixture of dextrose and hydrogenated starch hydrolyzate, maltose, maltotriose and maltotetraose; saccharide product comprising a mixture of dextrose and at least one other saccharide; and hydrozylate is sorbitol.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the '418 patent discloses a mixture of derivatized malto-oligosaccharides prepared by catalytically hydrogenating a mixture of malto-oligosaccharides (claims 1-10). The '418 patent also discloses the mixture of oligosaccharides from the starch hydrolyzates (col. 1, lines 16-27). The '418 patent discloses malto-oligosaccharides having a degree of polymerization (DP) range between 1-8 (col. 4, lines 15-35). The '418 patent also discloses that DP profile of the reduced derivatized malto-oligosaccharides are close to the starting mixture (col. 2, lines 32-39). The '418 patent differs from the applicant's invention that the composition of the '418 patent does not include extrusion reaction product of a saccharide such as sorbitol, maltose, dextrose and starch hydrolyzate.

The '894 patent discloses the hydrogenation products of sugars and sugar mixtures (abstract). The '894 patent discloses the sorbitol (col. 2, line 25), maltose (col. 2, line 28), isomaltose (col. 4, line 64). The '894 patent also discloses the hydrogenation products of isomaltulose (col. 5, Example 2 and 3).

It would have been obvious to person having ordinary skill in the art at the time the invention was made, to modify the composition containing a mixture of malto-oligosaccharides because '418 had disclosed that such compositions had many commercial uses such as encapsulants, acidulants, flocculants, adhesives, antiredeposition agents, and detergent builders (col. 1, lines 35-38), in view of the recognition in the art, as evidenced by the patent '894, that discloses hydrogenated reaction products of sugars and sugar mixtures. The motivation is provided by the '418 patent, the prior art suggests that the mixture of malto-oligosaccharides and derivatized malto-oligosaccharides have many commercial uses such as encapsulants, acidulants, flocculants, adhesives, antiredeposition agents, and detergent builders (col. 1, lines 28-38).

The examiner notes the instant claims and the '418 claims do indeed substantially overlap and this obviousness-type double patenting rejection is necessary to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.

### **35 U.S.C. 103(a) rejection**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

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Claims **1, 3-10** are rejected under 35 U.S.C. 103(a) as being obvious over claims 1-10 of U.S. Patent No. 6,720,418('418) (Antrim et al.) in view of Degelmann et al. (U.S. Patent 6,103,894)('894).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

The instant invention is directed to a saccharide-derivatized oligosaccharide composition, comprising extrusion reaction product of a saccharide (DP 1-4) and

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mixture of malto-oligosaccharide and mixture of malto-oligosaccharide derivative with the extrusion produced saccharide. Additional limitations include the saccharide product consisting of dextrose in monohydrate form or a mixture of dextrose and hydrogenated starch hydrolyzate, maltose, maltotriose and maltotetraose; saccharide product comprising a mixture of dextrose and at least one other saccharide; and hydrozylate is sorbitol.

The '418 patent teaches a mixture of derivatized malto-oligosaccharides prepared by catalytically hydrogenating a mixture of malto-oligosaccharides (claims 1-10). The '418 patent also discloses the mixture of oligosaccharides from the starch hydrolyzates (col. 1, lines 16-27). The '418 patent discloses malto-oligosaccharides having a degree of polymerization (DP) range between 1-8 (col. 4, lines 15-35). The '418 patent also discloses that DP profile of the reduced derivatized malto-oligosaccharides are close to the starting mixture (col. 2, lines 32-39). The '418 patent differs from the applicant's invention that the composition of the '418 patent does not include extrusion reaction product of a saccharide such as sorbitol, maltose, dextrose and starch hydrolyzate.

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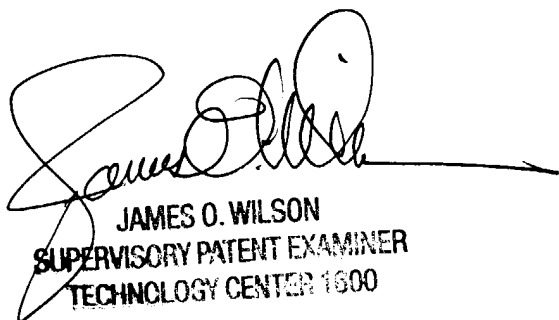
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Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Devesh Khare whose telephone number is (571) 272-0653. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, Supervisory Patent Examiner, Art Unit 1623 can be reached at (571)272-0661. The official fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-4556 or 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Devesh Khare, Ph.D.,JD(3Y).  
Art Unit 1623  
April 29, 2004



JAMES O. WILSON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600